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PIONEER HYBRIDS

For Minnesota and South Dakota

1940 PLANTING

PIONEER First Commercial

● The Pioneer Hi-Bred Corn Company, which traces directly back to the pioneers of hybrid corn who started their breeding work in 1913, devotes its resources to the breeding, production and marketing of practical corn hybrids which can be depended upon to make a good yield, stand up under adverse weather, and mature properly.

Pioneer follows five important steps in carrying out this program: first, sound corn breeding; second, rigid performance testing of all new hybrids; third, thorough detasseling; fourth, careful processing; and, fifth, direct-to-farmer marketing.

SOUND CORN BREEDING—Pioneer corn breeders practice sound, time-tested breeding principles. They work with the cream of inbred strains . . . for, besides experimenting with their own superior inbred lines, which are increased in number year after year, they have access to all inbreds released by State Experiment Stations and the U. S. Department of Agriculture.

Pioneer corn breeders maintain the purity of these inbred varieties and, with them, carry on an unceasing experiment to develop better, more practical hybrids.

About one thousand new experimental hybrids are produced each year, very few of which ever become commercial hybrids. This year, the breeding program required over 350,000 individual hand-pollinations.

Through extensive research and superior corn breeding, Pioneer customers get hybrids that stand up against bad weather conditions; hybrids that hold their ears well; hybrids that are adapted to both hand and mechanical picking; and hybrids that produce a good crop of ripe, deep kernel, small cob ears which generally overrun crib measurements when shelled.

PERFORMANCE TESTING—Each experimental hybrid which shows outstanding qualities undergoes a performance test. Before Pioneer corn breeders give it a variety number and produce it for commercial growing, the new hybrid must prove by actual field production its ability to withstand nature's severest planting and growing hazards . . . cold, wet spring weather; wet seasons; drought conditions; wind storms . . . and it must mature.



- MAKING A HAND-POLLINATION
- TESTING FOR YIELD PERFORMANCE
- DETASSELING SEED FIELDS



Producer of Hybrid Seed Corn

THOROUGH DETASSELING—Every Pioneer seed field is grown under the Company's supervision . . . each field is isolated according to state regulations, and detasseled from 14 to 20 times. Experienced supervisors direct the hundreds of men who detassel these Pioneer seed fields. Only thorough detasseling work keeps the hybrid crosses pure. Pure hybrid crosses mean better seed and bigger crops for the corn grower.

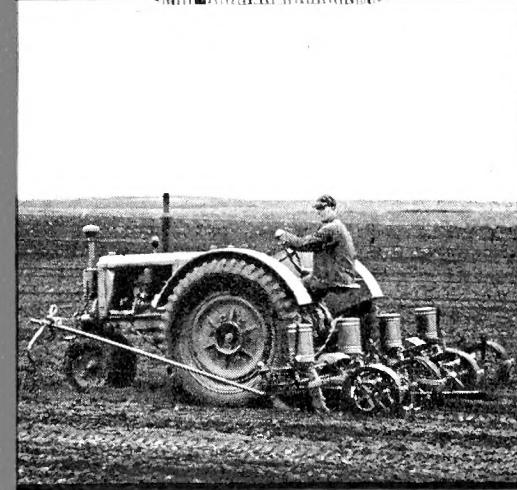
CAREFUL PROCESSING—Pioneer hybrid seed is picked before the first damaging freeze occurs, then processed with efficient equipment and improved methods many of which are used only by Pioneer. Every phase of processing . . . sorting, drying, shelling, grading, treating, and sacking . . . is carried on in adequately equipped plants which are operated by trained men. The experience of years goes into every sack. Properly processed, uniformly graded hybrid seed makes planting easier, and produces a good, even stand of healthy corn.

All Pioneer hybrid seed corn is yellow in color; dried to 12% moisture content; shelled; graded into uniform kernel sizes; treated with mercury dust; carefully tested for germination; sacked and sealed in trade-marked bushel bags that are stamped with specific hybrid variety numbers; and ready for planting.

DIRECT-TO-FARMER MARKETING—Pioneer hybrid seed is marketed directly to farmers through representatives who are, almost without exception, farmers themselves.

Practical farmers are picked to represent Pioneer because they know and share the same corn problems that their customers meet. They raise Pioneer themselves and are able to recommend, from first-hand experience, the hybrids best suited for their neighborhoods. Furthermore, they live and farm close to their customers and are always nearby to offer advice and perform personal services.

THOUSANDS CHOOSE PIONEER—Thousands of farmers throughout the cornbelt have discovered the consistent, dependable crops that Pioneer hybrids give. For this reason, Pioneer users have increased from a mere handful in 1926 to many thousands in 1939. These cornbelt farmers demand Pioneer because they want to pocket extra dollars by planting hybrid corn that is bred and processed for performance . . . moreover, they want a corn whose record is based not on one test or one year's results, but on the average of many years' performance under practical farm conditions.



- HAND SORTING INDIVIDUAL EARS
- A PIONEER REPRESENTATIVE
- ONE OF THE MANY PIONEER USERS



Pioneer Hybrid Maturity

● Pioneer hybrids recommended for each of Regions A, B, C, and D in Minnesota and South Dakota are classified under three groups: (1) early maturing, (2) medium maturing, and (3) late maturing. These groupings are made to meet: first, climatic conditions; second, various soil types and conditions peculiar to Minnesota and South Dakota; third, date of planting; and, fourth, personal demands of the farmers.

REGION A . . .

Pioneer 355 can be grown with safety in Region A when planted on very rich soils not later than the middle of May. This hybrid should not be planted on slow or poor soils in this region.

REGION B . . .

In Region B, early maturing Pioneer Hybrids 355 and 357 should be used for late plantings; for slow soils if planted around May 15th-25th; and for locations where the first freeze occurs unusually early in the fall. Under these conditions, with normal weather, the early hybrids will ripen and produce good, sound corn.

Under average climate and average soil fertility in Region B, medium maturing Pioneer Hybrid 352 will ripen ahead of the average first freeze if planted by May 10th. It should not be planted late on slow or poor soils.

The late maturing group, Pioneer Hybrids 322, 324, 335, and 349, is recommended only for very rich or fast soils; for quite early planting on soils of average to high fertility; and for silage or fodder corn. None of these hybrids should be planted late, nor should they be planted on slow or poor soils.

REGION C . . .

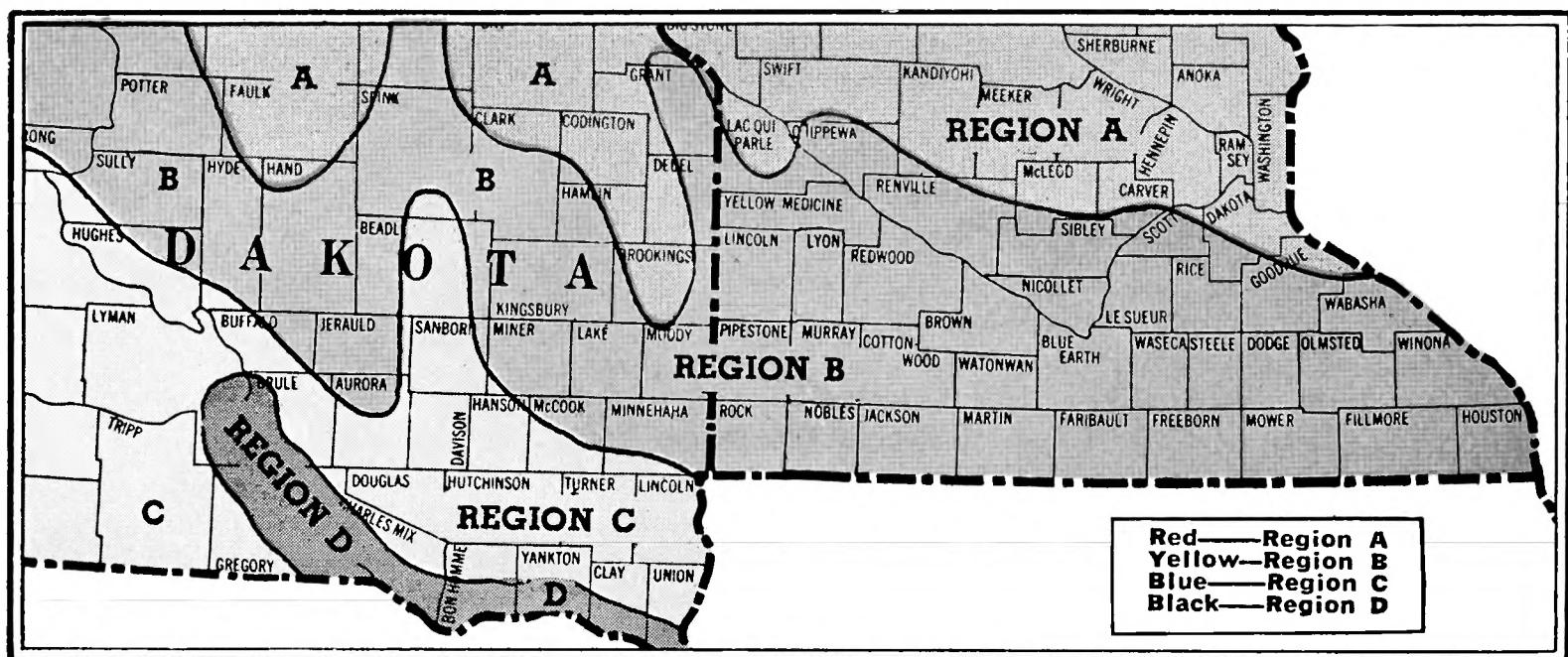
In Region C, the early maturing Pioneer Hybrid 352 should be used for late plantings; for slow soils if planted around May 15th-25th; and for locations where the first freeze occurs unusually early in the fall. Under these conditions, with normal weather, Pioneer 352 ripens and produces good, sound corn.

Under normal climate and average soil fertility, the medium maturing group, Pioneer Hybrids 322, 324, 335, and 349, will ripen ahead of the average first freeze if planted by the middle of May. The hybrids in this group should not be planted too late on slow or poor soils.

The late maturing Pioneer Hybrids 330 and 314 are recommended for rich or fast soils; for early planting on soils of average to high fertility; and for silage or fodder corn. Neither of these hybrids should be planted late on slow or poor soils.

REGION D . . .

In Region D, along the Missouri River, Pioneer Hybrids 330 and 314 are recommended for normal planting.



PIONEER

Description Of Each Variety

Pioneer 355 . . .

AVAILABLE IN QUANTITY

In the 1938 Minnesota Corn Performance Test, this hybrid outyielded Murdock open-pollinated corn by 16.1 bushels per acre; it also outyielded the average hybrid by 4.2 bushels per acre in the same test, and it contained less moisture than both; in the Grant County field of the 1938 South Dakota Corn Yield Test, it outyielded the average of open-pollinated corn by 13.9 bushels per acre and contained the same amount of moisture; it is suitable for a wide range of soil types, being particularly satisfactory on alkali and peat soils; well liked by farmers who seal, and by those who shell and sell; adapted for hand picking; strong roots and stiff stalks; excellent ear dropping resistance; good drought resistance; may be susceptible to smut in dry years; low ear height; average size ears with medium dented kernels; short husks and long shanks.

Pioneer 357 . . .

AVAILABLE IN QUANTITY

This hybrid matures about three days later than Pioneer 355, and ripens in Region B well ahead of the average first freeze; has high yielding ability for early corn; yielded 9.7 bushels per acre more than Murdock open-pollinated corn in 1938 Minnesota Corn Performance Test and contained about the same amount of moisture as Murdock; good quality ears that shell out well; good feeding corn; leafy plants; adapted for both machine and hand picking; seems to do particularly well on rich soil; suckers on high nitrogen content soil; excellent resistance to smut and ear dropping; good drought resistance; fair lodging resistance; moderately rough ears with long husks; medium ear height; short shanks.

Pioneer 352 . . .

AVAILABLE IN LIMITED QUANTITY

A hybrid which combines outstanding yield and early maturity; ripens ahead of average first freeze in normal weather and average soil conditions in Region B; adapted for both hand and mechanical picking; excellent resistance to smut and drought; strong roots and stiff stalks; fair resistance to ear dropping; large, wide grained ears with medium dented kernels and long husks; medium ear height.

Pioneer 322 . . .

AVAILABLE IN QUANTITY

General purpose variety; very high yield record; has highest yield among all regular hybrid entries with 2 and 3 year averages in Northern Section of Iowa Corn Yield Test; adapted for wide range of soils; excellent for both hand and mechanical picking; good feeding corn; small cobs and deep kernels; good silage corn; exceptionally strong roots and very stiff stalks; excellent resistance to smut, drought, and ear dropping; medium size, moderately rough ears with long husks; medium ear height; should be planted early on average to high fertility soil in Region B.

Pioneer 324 . . .

AVAILABLE IN LIMITED QUANTITY

High yielding, good feeding corn; excellent for machine picker and hand husking; very strong roots and exceptionally stiff stalks; medium ear height; good resistance to smut, drought, and ear dropping; medium size, moderately rough ears with long husks; same maturity as Pioneer 322.

Pioneer 335 . . .

AVAILABLE IN LIMITED QUANTITY

Short stalked, leafy plants with low hanging ears; high yielding hybrid; yielded 8.2 bushels more corn per acre than the average of open-pollinated corn in the Minnehaha County field of 1938 South Dakota Corn Yield Test; fast drying corn that shells out well; very strong roots and unusually stiff stalks; long ears with husks of medium length; medium dented kernels; good resistance to drought and ear dropping; may show a weakness for smut in dry years; maturity about same as Pioneer 322.

Pioneer 349 . . .

AVAILABLE IN LIMITED QUANTITY

Exceptionally high yielding hybrid; won Banner Trophy and was the highest yielding hybrid in Northern Section of 1938 Iowa Corn Yield Test; leafy plants; recommended for silage; excellent ear dropping resistance; very strong roots and stiff stalks; good resistance against droughts; may be susceptible to smut in dry years; large, moderately rough, deep kernel ears; ear height above average; short husks; in Region B, it may be late in short seasons and should be planted early on fast or high fertility soil.

Pioneer 315 . . .

AVAILABLE IN LIMITED QUANTITY

High yielding, good hand picking corn; shells out well; seems to do particularly well on thin soil; smooth, average size ears; medium ear height; husks are medium long; fair resistance to root and stalk lodging; adapted for Region C.

Pioneer 330 . . .

AVAILABLE IN LIMITED QUANTITY

Extremely uniform, rough eared hybrid; high yielding ability; exceptionally strong roots throughout season, and very stiff stalks in the fall; may "stalk break" in mid-season; excellent smut resistance; large, deep grained, low hanging ears with long husks; good drought and ear dropping resistance; especially well adapted for hand and mechanical picking; good feeding corn; recommended for Region D on rich or fast soils.

Pioneer 314 . . .

AVAILABLE IN QUANTITY

Large eared variety; quick drying, high yielding hybrid; good feeding corn; high shelling percentage; satisfactory for both hand and machine picking; medium dented kernels; excellent ear dropping resistance; strong roots and stiff stalks; susceptible to leaf smut, but resistant to ear smut; good drought resistance; medium ear height and medium length husks; must be planted on rich or fast soil in Region D.



RESULTS of Pioneer Testing Work

IN MINNESOTA AND SOUTH DAKOTA

REGION A

Pioneer 355 can be grown with safety in this region if planted on very rich soil not later than the middle of May. No testing work has been carried on this far north.

REGION B

Pioneer No.	Years Tested	Yield Bu.	Yield % 357	Moist. % 357	Ear Height % 357	Root Lodging % 357	Stalks Standing % 357
O.P.	3	48.3	90	95	91	144	99
355	3	56.9	106	96	86	96	102
357	3	53.7	100	100	100	100	100
352	1	62.8	117	106	99	95	101
322	1	62.3	116	117	106	76	102
335	3	60.7	113	121	96	83	101
349	1	63.9	119	124	108	87	102

324 has not been tested in Minnesota and South Dakota. We recommend trial purchase only.

REGION C

Pioneer No.	Years Tested	Yield % 322	Moist. % 322	Ear Height % 322	Root Lodging % 322	Stalks Standing % 322
352	2	100	88	85	110	99
O.P.	5	84	100	104	186	92
322	5	100	100	100	100	100
324	3	103	100	95	90	102
349	1	105	100	114	131	102
335	2	96	101	78	101	106
315	5	103	102	106	131	92
330	2	106	107	91	60	102
314	2	108	108	122	111	96

REGION D

Pioneer 314 and 330 are recommended in Region D.
No testing work has been done in this Region.

IMPORTANT

The figures under "Yield", "Moisture", "Ear Height", "Root Lodging", and "Stalks Standing", are given in percentages of Pioneer 357, in Region B, and Pioneer 322 in Region C. Both these hybrids are assumed to be 100%. Under "Yield" and "Stalks Standing", those hybrids whose percentages are higher than 100% have a higher yield record and have more

standing stalks than Pioneer 357 in Region B, and Pioneer 322 in Region C.

Under "Moisture", those hybrids above 100% are later maturing than Pioneer 357 in Region B and Pioneer 322 in Region C. Under "Ear Height" and "Root Lodging", those hybrids below 100% have a lower ear height and less root lodging than Pioneer 357 and 322.



Minnesota Corn Performance Test

Two Year Averages of Pioneer 355 and 357

BROWN AND COTTONWOOD COUNTIES

Pioneer No.	Bushels Per Acre	Moisture Per Cent
355	64.8	26.9
357	60.1	28.7
Murdock O.P.	50.2	29.0

ROCK COUNTY

355	67.2	27.4
357	65.8	29.2
Murdock O.P.	54.1	27.7

As an average for all four locations, for two years, Pioneer 355 and 357 averaged 12.7 bushels per acre more corn than the average of Murdock open-pollinated corn, and the average moisture content of the two hybrids was .3% less than Murdock open-pollinated corn.

WASECA COUNTY

Pioneer No.	Bushels Per Acre	Moisture Per Cent
355	64.8	29.1
357	62.3	29.0
Murdock O.P.	53.1	29.3

FILLMORE AND HOUSTON COUNTIES

355	77.1	32.3
357	65.4	34.5
Murdock O.P.	57.3	33.5

O.P.—Open-pollinated corn.

nated corn, and the average moisture content of the two hybrids was .3% less than Murdock open-pollinated corn.

CHOOSE THE CHARACTERISTICS YOU WANT

STRENGTH OF ROOTS:	Very strong.....	{ 322, 324, 330 335, 349	Strong	314, 352, 355	Fair.....	315, 357
STIFFNESS OF STALKS:	Very stiff.....	{ 322, 324 330, 335	Stiff.....	{ 314, 349 352, 355	Fair.....	315, 357
SMUT RESISTANCE:	Excellent.....	{ 322, 330 352, 357	Good	324	Fair.....	{ 314, 315, 335 349, 355
DROUGHT RESISTANCE:	Excellent	322, 352	Good.....	{ 314, 315, 324 330, 335, 349 355, 357	Fair.....	
EAR DROPPING RESISTANCE:	Excellent.....	{ 314, 315, 322 349, 355, 357	Good	324, 330, 335	Fair.....	352
SIZE OF EAR:	Large.....	{ 314, 330, 335 349, 352	Medium.....	{ 315, 322, 324 355, 357	Small	
DEGREE OF KERNEL DENT:	Rough.....	{ 322, 324, 330 (moderately)., 349, 357	Medium.....	{ 314, 335 352, 355	Smooth.....	315
EAR HEIGHT:	Low	330, 335, 355	Medium.....	{ 314, 315, 322 324, 352, 357	High	349
LENGTH OF HUSK:	Long.....	{ 322, 324, 330 352, 357	Medium	314, 315, 335	Short.....	349, 355



PIONEER

Pioneer Was First to Offer A Replanting Agreement

Minnesota and South Dakota
Farmers Plant Pioneer



- Minnesota and South Dakota farmers have grown Pioneer hybrid corn for years. About 10,000 corn growers from these two states planted nearly 30,000 bushels of Pioneer hybrid seed last spring.

They chose Pioneer because they know, from actual experience, that it matures and yields a big, ripe crop of deep kernel, good feeding, marketable corn.

REPLANTING AGREEMENT

If, because of cutworms, floods or ANY other reason the stand of corn upon any field planted with PIONEER corn shall be so impaired or diminished that the customer discs up and replants it to corn, we will furnish him free of any charge except transportation costs, a quantity of PIONEER seed equal to that required for such planting. To take advantage of this benefit all the customer needs to do is to notify in writing the Company or its sales representative through whom the seed was purchased in time to permit inspection of the field before it is disced up.

If we have no seed of suitable maturity available for replanting, we reserve the right to furnish an equal amount of PIONEER seed FREE for 1941 planting.

PIONEER HI-BRED CORN COMPANY
Des Moines, Iowa



PIONEER HI-BRED CORN COMPANY

1011 Locust Street, Des Moines, Iowa

FOR PRICE AND ADDITIONAL INFORMATION WRITE TO ABOVE ADDRESS
OR SEE YOUR LOCAL PIONEER REPRESENTATIVE